GenCore version 4.5

OM protein - protein search, using sw model

Run on: January 7, 2002, 16:05:25 ; Search time 77.81 Seconds
(without alignments)
21.676 Million cell updates/sec

Title: US-08-569-749-8
Perfect score: 267
Sequence: 1 LAKAGFYYIGPGDRVACFAC.....WEPKDNAMSEHLRHFPKCPF 46

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 100059 seqs, 36664827 residues

Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	267	100.0	604	1	BIR2_HUMAN	Q13489 homo sapien
2	254	95.1	358	1	PIAP_PIG	O62640 sus scrofa
3	248	92.9	618	1	BIR3_HUMAN	Q13490 homo sapien
4	247	92.5	612	1	BIR3_MOUSE	Q62210 mus musculu
5	235	88.0	600	1	BIR2_MOUSE	O08863 mus musculu
6	186	69.7	611	1	BIR_CHICK	Q90660 gallus gall
7	182	68.2	497	1	BIR4_HUMAN	P98170 homo sapien
8	177	66.3	496	1	BIR4_MOUSE	Q60989 mus musculu
9	175	65.5	496	1	BIR4_RAT	Q9r0i6 rattus norv
10	145	54.3	498	1	IAP2_DROME	Q24307 drosophila
11	141	52.8	1402	1	BIRG_MOUSE	Q9jib3 mus musculu
12	141	52.8	1403	1	BIR1_HUMAN	Q13075 homo sapien
13	141	52.8	1403	1	BIRA_MOUSE	Q9qwk5 mus musculu
14	141	52.8	1403	1	BIRE_MOUSE	Q9r016 mus musculu
15	141	52.8	1403	1	BIRF_MOUSE	Q9jib6 mus musculu
16	138	51.7	1447	1	BIRB_MOUSE	Q9quk4 mus musculu
17	135	50.6	268	1	IAP3_NPVOP	P41437 orgyia pseu
18	131	49.1	275	1	IAP_GVCP	P41436 cydia pomon
19	129	48.3	438	1	IAP1_DROME	Q24306 drosophila
20	122.5	45.9	4829	1	BIR6_HUMAN	Q9nr09 homo sapien
21	112	41.9	239	1	ZFP_IRV6	P47732 chilo iride
22	105.5	39.5	140	1	BIR5_MOUSE	O70201 mus musculu
23	105.5	39.5	142	1	BIR5_RAT	Q9jhy7 rattus norv
24	103	38.6	997	1	BIR1_SCHPO	O14064 schizosacch
25	93	34.8	286	1	IAP1_NPVAC	P41435 autographa
26	92.5	34.6	142	1	BIR5_HUMAN	O15392 homo sapien
27	90	33.7	275	1	IAP1_NPVOP	O10296 orgyia pseu
28	72.5	27.2	224	1	IAPL_ASFB7	Q65138 african swi
29	69.5	26.0	224	1	IAPL_ASFM1	O11452 african swi
30	66.5	24.9	224	1	IAPL_ASFC3	O11451 african swi
31	66.5	24.9	224	1	IAPL_ASFCH	O12407 african swi
32	66.5	24.9	238	1	IAPL_ASFM2	O11453 african swi
33	60	22.5	249	1	IAP2_NPVAC	P41454 autographa
34	57.5	21.5	278	1	HUPJ_RHOCA	Q03009 rhodobacter
35	56.5	21.2	706	1	SM2A_DROME	Q24323 drosophila
36	56.5	21.2	2236	1	PYR1_DROME	P05990 drosophila
37	56	21.0	1004	1	ATNA_ARTSF	P28774 artemia san
38	55	20.6	1433	1	CAT8_YEAST	P39113 saccharomyc
39	54	20.2	181	1	VG79_HSV11	Q00148 ictalurid h
40	54	20.2	606	1	WDR1_HUMAN	O75083 homo sapien
41	54	20.2	606	1	WDR1_MOUSE	O88342 mus musculu
42	54	20.2	608	1	WDR1_XENLA	Q9w7f2 xenopus lae
43	54	20.2	609	1	WDR1_CHICK	O93277 gallus gall
44	54	20.2	843	1	CO7_HUMAN	P10643 homo sapien
45	53.5	20.0	563	1	ENV_BAEVM	P10269 baboon endo

ALIGNMENTS

RESULT 1
BIR2_HUMAN
ID BIR2_HUMAN STANDARD; PRT; 604 AA.
AC Q13489; Q16628; Q9UP46;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 20-AUG-2001 (Rel. 40, Last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1 (INHIBITOR OF APOPTOSIS
DE PROTEIN 1) (HIAP1) (HIAP-1) (C-IAP2) (TNFR2-TRAF SIGNALING COMPLEX
DE PROTEIN 1) (IAP HOMOLOG C).
GN BIRC2 OR API1 OR IAP1 OR MIHC.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96128127; PubMed=8548810;
RA Rothe M., Pan M.-G., Henzel W.J., Ayres T.M., Goeddel D.V.;
RT "The TNFR2-TRAF signaling complex contains two novel proteins related
RT to baculoviral inhibitor of apoptosis proteins.";
RL Cell 83:1243-1252(1995).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=96149249; PubMed=8552191;
RA Liston P., Roy N., Tamai K., Lefebvre C., Baird S., Cherton-Horvat G.,
RA Farahani R., McLean M., Ikeda J., Mackenzie A., Korneluk R.G.;
RT "Suppression of apoptosis in mammalian cells by NAIP and a related
RT family of IAP genes.";
RL Nature 379:349-353(1996).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Fetal liver;
RX MEDLINE=96209843; PubMed=8643514;
RA Uren A.G., Pakusch M., Hawkins C.J., Puls K.L., Vaux D.L.;
RT "Cloning and expression of apoptosis inhibitory protein homologs that
RT function to inhibit apoptosis and/or bind tumor necrosis factor
RT receptor-associated factors.";
RL Proc. Natl. Acad. Sci. U.S.A. 93:4974-4978(1996).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=99252096; PubMed=10233894;
RA Horrevoets A.J., Fontijn R.D., van Zonneveld A.J., de Vries C.J.,
RA ten Cate J.W., Pannekoek H.;
RT "Vascular endothelial genes that are responsive to tumor necrosis
RT factor-alpha in vitro are expressed in atherosclerotic lesions,
RT including inhibitor of apoptosis protein-1, stannin, and two novel
RT genes.";
RL Blood 93:3418-3431(1999).
CC -!- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIFS REGION INTERACTS
CC WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO
CC FORM AN HETEROMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC NECROSIS FACTOR RECEPTOR 2 (TNFR2).
CC -!- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).
CC -!- TISSUE SPECIFICITY: HIGHLY EXPRESSED IN FETAL LUNG, AND KIDNEY. IN

```
CC       THE ADULT, EXPRESSION IS MAINLY SEEN IN LYMPHOID TISSUES,
CC       INCLUDING SPLEEN, THYMUS AND PERIPHERAL BLOOD LYMPHOCYTES.
CC   -!- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   -!- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L49432; AAC41943.1; -.
DR   EMBL; U45878; AAC50371.1; -.
DR   EMBL; U37546; AAC50507.1; -.
DR   EMBL; AF070674; AAC83232.1; -.
DR   MIM; 601712; -.
DR   InterPro; IPR001370; BIR.
DR   InterPro; IPR001315; CARD.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00653; BIR; 3.
DR   Pfam; PF00619; CARD; 1.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00238; BIR; 3.
DR   SMART; SM00114; CARD; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01282; BIR_REPEAT_1; 3.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
DR   PROSITE; PS50209; CARD; 1.
KW   Apoptosis; Zinc-finger; Repeat.
FT   REPEAT       29     96       BIR 1.
FT   REPEAT      169    235       BIR 2.
FT   REPEAT      255    322       BIR 3.
FT   DOMAIN      447    525       CARD.
FT   ZN_FING     557    591       RING-TYPE.
FT   CONFLICT     18     18       N -> Y (IN REF. 4).
FT   CONFLICT    119    119       N -> H (IN REF. 2).
FT   CONFLICT    153    153       D -> E (IN REF. 2).
FT   CONFLICT    163    163       H -> P (IN REF. 2).
FT   CONFLICT    165    165       A -> P (IN REF. 2).
FT   CONFLICT    191    191       K -> R (IN REF. 2).
FT   CONFLICT    364    364       F -> L (IN REF. 2).
FT   CONFLICT    552    552       Q -> P (IN REF. 2).
SQ   SEQUENCE   604 AA;  68371 MW;  8581A00BA9AAB4A7 CRC64;
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  Query Match             100.0%;  Score 267;  DB 1;  Length 604;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-27;
  Matches   46;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           |||||||||||||||||||||||||||||||||||||||||||||
Db     189 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 234
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RESULT   2
PIAP_PIG
ID   PIAP_PIG       STANDARD;      PRT;   358 AA.
AC   O62640;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   PUTATIVE INHIBITOR OF APOPTOSIS.
GN   PIAP.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Aorta;
RX   MEDLINE=98162622; PubMed=9501011;
RA   Stehlik C., de Martin R., Binder B.R., Lipp J.;
RT   "Cytokine induced expression of porcine inhibitor of apoptosis
RT   protein (iap) family member is regulated by NF-kappa B.";
RL   Biochem. Biophys. Res. Commun. 243:827-832(1998).
CC   -!- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC   -!- SIMILARITY: CONTAINS 2 BIR REPEATS.
CC   -!- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U79142; AAC39171.1; -.
DR   InterPro; IPR001370; BIR.
DR   InterPro; IPR001315; CARD.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00653; BIR; 2.
DR   Pfam; PF00619; CARD; 1.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00238; BIR; 2.
DR   SMART; SM00114; CARD; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01282; BIR_REPEAT_1; 2.
DR   PROSITE; PS50143; BIR_REPEAT_2; 2.
DR   PROSITE; PS50209; CARD; 1.
KW   Apoptosis; Zinc-finger; Repeat.
FT   REPEAT       4     70       BIR 1.
FT   REPEAT      90    157       BIR 2.
FT   ZN_FING    311    345       RING-TYPE.
SQ   SEQUENCE   358 AA;  40977 MW;  EB2268FA9A6190A4 CRC64;
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  Query Match             95.1%;  Score 254;  DB 1;  Length 358;
  Best Local Similarity   93.5%;  Pred. No. 8.4e-26;
  Matches   43;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           |||||||||||||||||||||||||||||:||:||||||| |||
Db      24 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDDAMTEHLRHFPNCPF 69
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```
RESULT   3
BIR3_HUMAN
ID   BIR3_HUMAN     STANDARD;      PRT;   618 AA.
AC   Q13490; Q16516;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 3 (INHIBITOR OF APOPTOSIS
DE   PROTEIN 2) (HIAP2) (HIAP-2) (C-IAP1) (TNFR2-TRAF SIGNALING COMPLEX
DE   PROTEIN 2) (IAP HOMOLOG B).
GN   BIRC3 OR API2 OR IAP2 OR MIHB.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=96128127; PubMed=8548810;
RA   Rothe M., Pan M.-G., Henzel W.J., Ayres T.M., Goeddel D.V.;
RT   "The TNFR2-TRAF signaling complex contains two novel proteins related
RT   to baculoviral inhibitor of apoptosis proteins.";
RL   Cell 83:1243-1252(1995).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
```

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RX   MEDLINE=96149249; PubMed=8552191;
RA   Liston P., Roy N., Tamai K., Lefebvre C., Baird S., Cherton-Horvat G.,
RA   Farahani R., McLean M., Ikeda J., Mackenzie A., Korneluk R.G.;
RT   "Suppression of apoptosis in mammalian cells by NAIP and a related
RT   family of IAP genes.";
RL   Nature 379:349-353(1996).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Fetal liver;
RX   MEDLINE=96209843; PubMed=8643514;
RA   Uren A.G., Pakusch M., Hawkins C.J., Puls K.L., Vaux D.L.;
RT   "Cloning and expression of apoptosis inhibitory protein homologs that
RT   function to inhibit apoptosis and/or bind tumor necrosis factor
RT   receptor-associated factors.";
RL   Proc. Natl. Acad. Sci. U.S.A. 93:4974-4978(1996).
RN   [4]
RP   STRUCTURE BY NMR OF 266-363.
RX   MEDLINE=99332054; PubMed=10404221;
RA   Hinds M.G., Norton R.S., Vaux D.L., Day C.L.;
RT   "Solution structure of a baculoviral inhibitor of apoptosis (IAP)
RT   repeat.";
RL   Nat. Struct. Biol. 6:648-651(1999).
CC   -!- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIFS REGION INTERACTS
CC       WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO
CC       FORM AN HETEROMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC       NECROSIS FACTOR RECEPTOR 2 (TNFR2).
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).
CC   -!- TISSUE SPECIFICITY: PRESENT IN MANY FETAL AND ADULT TISSUES.
CC       MAINLY EXPRESSED IN ADULT SKELETAL MUSCLE, THYMUS, TESTIS, OVARY,
CC       AND PANCREAS, LOW OR ABSENT IN BRAIN AND PERIPHERAL BLOOD
CC       LEUKOCYTES.
CC   -!- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   -!- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L49431; AAC41942.1; -.
DR   EMBL; U45879; AAC50372.1; -.
DR   EMBL; U37547; AAC50508.1; -.
DR   PDB; 1QBH; 20-OCT-99.
DR   MIM; 601721; -.
DR   InterPro; IPR001370; BIR.
DR   InterPro; IPR001315; CARD.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00653; BIR; 3.
DR   Pfam; PF00619; CARD; 1.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00238; BIR; 3.
DR   SMART; SM00114; CARD; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01282; BIR_REPEAT_1; 3.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
DR   PROSITE; PS50209; CARD; 1.
KW   Apoptosis; Zinc-finger; Repeat; 3D-structure.
FT   REPEAT       46    113       BIR 1.
FT   REPEAT      184    250       BIR 2.
FT   REPEAT      269    336       BIR 3.
FT   DOMAIN      453    539       CARD.
FT   ZN_FING     571    605       RING-TYPE.
FT   CONFLICT    157    157       S -> P (IN REF. 2).
FT   CONFLICT    308    308       C -> G (IN REF. 2).
FT   CONFLICT    414    414       Q -> L (IN REF. 2).
FT   CONFLICT    514    514       L -> W (IN REF. 2).
SQ   SEQUENCE   618 AA;  69899 MW;  C1778D328063586D CRC64;
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  Query Match           92.9%;  Score 248;  DB 1;  Length 618;
  Best Local Similarity  91.3%;  Pred. No. 8.8e-25;
  Matches   42;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           ||:|||||||||||||||||||||||||||:||||| |||| |||
Db     204 LARAGFYYIGPGDRVACFACGGKLSNWEPKDDAMSEHRRHFPNCPF 249


RESULT   4
BIR3_MOUSE
ID   BIR3_MOUSE     STANDARD;      PRT;   612 AA.
AC   Q62210; O08864;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 3 (INHIBITOR OF APOPTOSIS
DE   PROTEIN 2) (MIAP2) (MIAP-2).
GN   BIRC3 OR API2 OR IAP2.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
RX   MEDLINE=96128127; PubMed=8548810;
RA   Rothe M., Pan M.-G., Henzel W.J., Ayres T.M., Goeddel D.V.;
RT   "The TNFR2-TRAF signaling complex contains two novel proteins related
RT   to baculoviral inhibitor of apoptosis proteins.";
RL   Cell 83:1243-1252(1995).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Skeletal muscle;
RX   MEDLINE=98110590; PubMed=9441758;
RA   Liston P., Lefebvre C., Fong W.G., Xuan J.Y., Korneluk R.G.;
RT   "Genomic characterization of the mouse inhibitor of apoptosis protein
RT   1 and 2 genes.";
RL   Genomics 46:495-503(1997).
CC   -!- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIFS REGION INTERACTS
CC       WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO
CC       FORM AN HETEROMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC       NECROSIS FACTOR RECEPTOR 2 (TNFR2).
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN HEART, BRAIN, SPLEEN, LUNG,
CC       LIVER, SKELETAL MUSCLE, KIDNEY, AND TESTIS.
CC   -!- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   -!- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L49433; AAC42078.1; -.
DR   EMBL; U88909; AAC53532.1; -.
DR   MGD; MGI:1197009; Birc3.
DR   InterPro; IPR001370; BIR.
DR   InterPro; IPR001315; CARD.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00653; BIR; 3.
DR   Pfam; PF00619; CARD; 1.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00238; BIR; 3.
DR   SMART; SM00114; CARD; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01282; BIR_REPEAT_1; 3.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
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DR   PROSITE; PS50209; CARD; 1.
KW   Apoptosis; Zinc-finger; Repeat.
FT   REPEAT       46     113       BIR 1.
FT   REPEAT      177     243       BIR 2.
FT   REPEAT      262     329       BIR 3.
FT   DOMAIN      447     533       CARD.
FT   ZN_FING     565     599       RING-TYPE.
FT   CONFLICT    380     380       E -> K (IN REF. 2).
SQ   SEQUENCE   612 AA;  69676 MW;  E08969D93C6C610D CRC64;


  Query Match             92.5%;  Score 247;  DB 1;  Length 612;
  Best Local Similarity   91.3%;  Pred. No. 1.2e-24;
  Matches   42;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           ||:|||||||||||||||||||||||||||:||||| |||| |||
Db     197 LARAGFYYIGPGDRVACFACGGKLSNWEPKDDAMSEHRRHFPHCPF 242


RESULT   5
BIR2_MOUSE
ID   BIR2_MOUSE      STANDARD;      PRT;   600 AA.
AC   O08863;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 2 (INHIBITOR OF APOPTOSIS
DE   PROTEIN 1) (MIAP1) (MIAP-1).
GN   BIRC2 OR API1 OR IAP1.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Skeletal muscle;
RX   MEDLINE=98110590; PubMed=9441758;
RA   Liston P., Lefebvre C., Fong W.G., Xuan J.Y., Korneluk R.G.;
RT   "Genomic characterization of the mouse inhibitor of apoptosis protein
RT   1 and 2 genes.";
RL   Genomics 46:495-503(1997).
CC   -!- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIFS REGION INTERACTS
CC       WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO
CC       FORM AN HETEROMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC       NECROSIS FACTOR RECEPTOR 2 (TNFR2) (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).
CC   -!- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   -!- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U88908; AAC53531.1; -.
DR   MGD; MGI:1197007; Birc2.
DR   InterPro; IPR001370; BIR.
DR   InterPro; IPR001315; CARD.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00653; BIR; 3.
DR   Pfam; PF00619; CARD; 1.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00238; BIR; 3.
DR   SMART; SM00114; CARD; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01282; BIR_REPEAT_1; 3.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
DR   PROSITE; PS50209; CARD; 1.
KW   Apoptosis; Zinc-finger; Repeat.
FT   REPEAT       27     94       BIR 1.
FT   REPEAT      167     233      BIR 2.
FT   REPEAT      253     320      BIR 3.
FT   DOMAIN      444     512      CARD.
FT   ZN_FING     553     587      RING-TYPE.
SQ   SEQUENCE   600 AA;  67198 MW;  AD7F73E6849317D1 CRC64;


  Query Match             88.0%;  Score 235;  DB 1;  Length 600;
  Best Local Similarity   89.1%;  Pred. No. 4.2e-23;
  Matches   41;  Conservative    1;  Mismatches    4;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           |||||||||||||||||||| ||||||| ||:||||| |||| |||
Db     187 LAKAGFYYIGPGDRVACFACDGKLSNWERKDDAMSEHQRHFPSCPF 232


RESULT   6
BIR_CHICK
ID   BIR_CHICK       STANDARD;      PRT;   611 AA.
AC   Q90660;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   INHIBITOR OF APOPTOSIS PROTEIN (IAP) (INHIBITOR OF T CELL APOPTOSIS
DE   PROTEIN).
GN   ITA.
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Spleen;
RX   MEDLINE=97101112; PubMed=8945639;
RA   Digby M.R., Kimpton W.G., York J.J., Connick T.E., Lowenthal J.W.;
RT   "ITA, a vertebrate homologue of IAP that is expressed in T
RT   lymphocytes.";
RL   DNA Cell Biol. 15:981-988(1996).
CC   -!- FUNCTION: APOPTOTIC SUPPRESSOR (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: PREDOMINANTLY NUCLEAR.
CC   -!- TISSUE SPECIFICITY: CELLS OF THE T LYMPHOCYTE LINEAGE. FOUND IN
CC       BOTH CORTICAL AND MEDULLARY CELLS OF THE THYMUS.
CC   -!- DEVELOPMENTAL STAGE: HIGH LEVELS ARE INDUCED WITHIN 4-8 HOURS OF
CC       T-CELL ACTIVATION IN SPLEEN AND THYMUS.
CC   -!- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   -!- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U27466; AAB48118.1; -.
DR   InterPro; IPR001370; BIR.
DR   InterPro; IPR001315; CARD.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00653; BIR; 3.
DR   Pfam; PF00619; CARD; 1.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00238; BIR; 3.
DR   SMART; SM00114; CARD; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01282; BIR_REPEAT_1; 3.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
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DR   PROSITE; PS50209; CARD: 1.
KW   Apoptosis; Zinc-finger; Repeat; Nuclear protein.
FT   REPEAT       30     97       BIR 1.
FT   REPEAT      176    242       BIR 2.
FT   REPEAT      262    329       BIR 3.
FT   ZN_FING     564    598       RING-TYPE.
SQ   SEQUENCE   611 AA;  69009 MW;  53FC9136F34EBDDD CRC64;


  Query Match             69.7%;  Score 186;  DB 1;  Length 611;
  Best Local Similarity   71.7%;  Pred. No. 1e-16;
  Matches   33;  Conservative    3;  Mismatches   10;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           :!!!!   :!  !:!!!  !! !!!!!!!!!!!!!!! !!!! !!!
Db     196 VAKAGLDDLGTADKVACVNCGVKLSNWEPKDNAMSEHRRHFPNCPF 241


RESULT   7
BIR4_HUMAN
ID   BIR4_HUMAN     STANDARD;      PRT;   497 AA.
AC   P98170; Q9NQ14;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 4 (INHIBITOR OF APOPTOSIS
DE   PROTEIN 3) (X-LINKED INHIBITOR OF APOPTOSIS PROTEIN) (X-LINKED IAP)
DE   (IAP-LIKE PROTEIN) (HILP).
GN   BIRC4 OR API3 OR IAP3 OR XIAP.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Fetal brain;
RX   MEDLINE=96149249; PubMed=8552191;
RA   Liston P., Roy N., Tamai K., Lefebvre C., Baird S., Cherton-Horvat G.,
RA   Farahani R., McLean M., Ikeda J., Mackenzie A., Korneluk R.G.;
RT   "Suppression of apoptosis in mammalian cells by NAIP and a related
RT   family of IAP genes.";
RL   Nature 379:349-353(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Fetal heart;
RX   MEDLINE=96256286; PubMed=8654366;
RA   Duckett C.S., Nava V.E., Gedrich R.W., Clem R.J., van Dongen J.L.,
RA   Gilfillan M.C., Shiels H., Hardwick J.M., Thompson C.B.;
RT   "A conserved family of cellular genes related to the baculovirus iap
RT   gene and encoding apoptosis inhibitors.";
RL   EMBO J. 15:2685-2694(1996).
RN   [3]
RP   SEQUENCE FROM N.A.
RA   Grafham D.;
RL   Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   FUNCTION.
RX   MEDLINE=97373959; PubMed=9230442;
RA   Deveraux Q.L., Takahashi R., Salvesen G.S., Reed J.C.;
RT   "X-linked IAP is a direct inhibitor of cell-death proteases.";
RL   Nature 388:300-304(1997).
CC   -!- FUNCTION: APOPTOTIC SUPPRESSOR. INHIBITOR OF CASPASE-3 AND
CC       CASPASE-7.
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC.
CC   -!- TISSUE SPECIFICITY: UBIQUITOUS, EXCEPT PERIPHERAL BLOOD
CC       LEUKOCYTES.
CC   -!- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U45880; AAC50373.1; -.
DR   EMBL; U32974; AAC50518.1; -.
DR   EMBL; AL121601; CAB95312.1; -.
DR   MIM; 300079; -.
DR   InterPro; IPR001370; BIR.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00653; BIR; 3.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00238; BIR; 3.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01282; BIR_REPEAT_1; 3.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
KW   Apoptosis; Zinc-finger; Repeat; Thiol protease inhibitor.
FT   REPEAT       26     93       BIR 1.
FT   REPEAT      163    230       BIR 2.
FT   REPEAT      265    330       BIR 3.
FT   ZN_FING     450    484       RING-TYPE.
FT   CONFLICT    162    162       S -> C (IN REF. 1).
FT   CONFLICT    423    423       Q -> P (IN REF. 2).
SQ   SEQUENCE   497 AA;  56684 MW;  9D394C16D45EB635 CRC64;


  Query Match             68.2%;  Score 182;  DB 1;  Length 497;
  Best Local Similarity   69.6%;  Pred. No. 2.8e-16;
  Matches   32;  Conservative    1;  Mismatches   13;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           !! !! !! ! !!:! !! ||||| |||| ! ! ||| |||| ! !
Db     184 LASAGLYYTGIGDQVQCPCCGGKLKNWEPCDRAWSEHRRHFPNCFF 229


RESULT   8
BIR4_MOUSE
ID   BIR4_MOUSE     STANDARD;      PRT;   496 AA.
AC   Q60989; O08865;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 4 (INHIBITOR OF APOPTOSIS
DE   PROTEIN 3) (X-LINKED INHIBITOR OF APOPTOSIS PROTEIN) (X-LINKED IAP)
DE   (IAP HOMOLOG A) (MIAP3) (MIAP-3).
GN   BIRC4 OR API3 OR XIAP OR AIPA OR MIHA.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6 X CBA; TISSUE=Liver;
RX   MEDLINE=96209843; PubMed=8643514;
RA   Uren A.G., Pakusch M., Hawkins C.J., Puls K.L., Vaux D.L.;
RT   "Cloning and expression of apoptosis inhibitory protein homologs that
RT   function to inhibit apoptosis and/or bind tumor necrosis factor
RT   receptor-associated factors.";
RL   Proc. Natl. Acad. Sci. U.S.A. 93:4974-4978(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Farahani R., Lefebvre C., Korneluk R.G., Mackenzie A.E.;
RL   Submitted (JUN-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: APOPTOTIC SUPPRESSOR. INHIBITOR OF CASPASE-3 AND
CC       CASPASE-7 (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; U36842; AAC52594.1; -.
DR   EMBL; U88990; AAB58376.1; -.
DR   MGD; MGI:107572; Birc4.
DR   InterPro; IPR001370; BIR.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00653; BIR; 3.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00238; BIR; 3.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01282; BIR_REPEAT_1; 3.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
KW   Apoptosis; Zinc-finger; Repeat.
FT   REPEAT       26     93       BIR 1.
FT   REPEAT      163    230       BIR 2.
FT   REPEAT      264    329       BIR 3.
FT   ZN_FING     449    483       RING-TYPE.
FT   CONFLICT    208    208       E -> K (IN REF. 2).
FT   CONFLICT    317    317       E -> D (IN REF. 2).
FT   CONFLICT    322    322       W -> C (IN REF. 2).
FT   CONFLICT    346    346       S -> P (IN REF. 2).
FT   CONFLICT    360    360       S -> P (IN REF. 2).
FT   CONFLICT    388    388       I -> L (IN REF. 2).
FT   CONFLICT    449    449       C -> S (IN REF. 2).
FT   CONFLICT    462    462       V -> F (IN REF. 2).
FT   CONFLICT    468    468       V -> A (IN REF. 2).
FT   CONFLICT    490    490       K -> N (IN REF. 2).
SQ   SEQUENCE   496 AA;  56079 MW;  EC5FAE0799F2CDD8 CRC64;


  Query Match             66.3%;  Score 177;  DB 1;  Length 496;
  Best Local Similarity   67.4%;  Pred. No. 1.3e-15;
  Matches   31;  Conservative    1;  Mismatches   14;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
             || || || |  |:| || ||||| |||| | | ||| |||| | |
Db     184 LASAGLYYTGADDQVQCFCCGGKLENWEPCDRAWSEHRRHFPNCFF 229


RESULT   9
BIR4_RAT
ID   BIR4_RAT       STANDARD;      PRT;   496 AA.
AC   Q9R0I6;
DT   20-AUG-2001 (Rel. 40, Created)
DT   20-AUG-2001 (Rel. 40, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 4 (INHIBITOR OF APOPTOSIS
DE   PROTEIN 3) (X-LINKED INHIBITOR OF APOPTOSIS PROTEIN) (X-LINKED IAP)
DE   (IAP HOMOLOG A) (RIAP3) (RIAP-3).
GN   BIRC4 OR API3 OR XIAP.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Saito N.;
RT   "Rattus norvegicus X-linked inhibitor of apoptosis (riap3) mRNA.";
RL   Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: APOPTOTIC SUPPRESSOR. INHIBITOR OF CASPASE-3 AND
CC       CASPASE-7 (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   ---------------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; AB033366; BAA85304.1; -.
DR   InterPro; IPR001370; BIR.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00653; BIR; 3.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00238; BIR; 3.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01282; BIR_REPEAT_1; 3.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
KW   Apoptosis; Zinc-finger; Repeat.
FT   REPEAT       26     93       BIR 1.
FT   REPEAT      163    230       BIR 2.
FT   REPEAT      264    329       BIR 3.
FT   ZN_FING     449    483       RING-TYPE.
SQ   SEQUENCE   496 AA;  56072 MW;  E250E3C77461A469 CRC64;


  Query Match             65.5%;  Score 175;  DB 1;  Length 496;
  Best Local Similarity   67.4%;  Pred. No. 2.3e-15;
  Matches   31;  Conservative    1;  Mismatches   14;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
             || || || |  |:| || ||||| |||| | | ||| |||| | |
Db     184 LASAGLYYTGIDDQVQCFCCGGKLKNWEPCDRAWSEHRRHFPNCFF 229


RESULT  10
IAP2_DROME
ID   IAP2_DROME     STANDARD;      PRT;   498 AA.
AC   Q24307; Q24177; Q24115; Q24149; Q9V7G1;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   APOPTOSIS 2 INHIBITOR (INHIBITOR OF APOPTOSIS 2) (DIAP2) (DIAP) (IAP
DE   HOMOLOG A) (IAP-LIKE PROTEIN) (DILP).
GN   IAP2 OR ILP OR DIHA OR CG8293.
OS   Drosophila melanogaster (Fruit fly).
OC   Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
OC   Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC   Ephydroidea; Drosophilidae; Drosophila.
OX   NCBI_TaxID=7227;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Eye imaginal disk;
RX   MEDLINE=96128128; PubMed=8548811;
RA   Hay B.A., Wassarman D.A., Rubin G.M.;
RT   "Drosophila homologs of baculovirus inhibitor of apoptosis proteins
RT   function to block cell death.";
RL   Cell 83:1253-1262(1995).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Embryo;
RX   MEDLINE=96149249; PubMed=8552191;
RA   Liston P., Roy N., Tamai K., Lefebvre C., Baird S., Cherton-Horvat G.,
RA   Farahani R., McLean M., Ikeda J., Mackenzie A., Korneluk R.G.;
RT   "Suppression of apoptosis in mammalian cells by NAIP and a related
RT   family of IAP genes.";
RL   Nature 379:349-353(1996).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CANTON-S;
RX   MEDLINE=96256286; PubMed=8654366;
RA   Duckett C.S., Nava V.E., Gedrich R.W., Clem R.J., van Dongen J.L.,
RA   Gilfillan M.C., Shiels H., Hardwick J.M., Thompson C.B.;
RT   "A conserved family of cellular genes related to the baculovirus iap
RT   gene and encoding apoptosis inhibitors.";
RL   EMBO J. 15:2685-2694(1996).
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RN [4]
RP SEQUENCE FROM N.A.
RC STRAIN=CANTON-S;
RA Ross J.L.;
RL Thesis (1991), Vanderbilt University / Nashville, U.S.A.
RN [5]
RP SEQUENCE FROM N.A.
RC STRAIN=BERKELEY;
RX MEDLINE=20196006; PubMed=10731132;
RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,
RA Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Durbin K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
RA Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
RA Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O.,
RA Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
RT "The genome sequence of Drosophila melanogaster.";
RL Science 287:2185-2195(2000).
RN [6]
RP SEQUENCE OF 17-498 FROM N.A.
RC TISSUE=Larva;
RX MEDLINE=96209843; PubMed=8643514;
RA Uren A.G., Pakusch M., Hawkins C.J., Puls K.L., Vaux D.L.;
RT "Cloning and expression of apoptosis inhibitory protein homologs that
RT function to inhibit apoptosis and/or bind tumor necrosis factor
RT receptor-associated factors.";
RL Proc. Natl. Acad. Sci. U.S.A. 93:4974-4978(1996).
CC -!- FUNCTION: APOPTOTIC SUPPRESSOR. OVEREXPRESSION SUPPRESSES RPR AND
CC HID-DEPENDENT CELL DEATH IN THE EYE.
CC -!- DEVELOPMENTAL STAGE: EXPRESSED AT HIGH LEVELS THROUGHOUT
CC DEVELOPMENT.
CC -!- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC ---

CC ---
DR EMBL; L49441; AAC41610.1; -.
DR EMBL; U45881; AAC46988.1; -.
DR EMBL; U32373; AAC47155.1; -.
DR EMBL; M96581; -; NOT_ANNOTATED_CDS.
DR EMBL; AE003808; AAF58095.1; -.
DR EMBL; U38809; AAB08398.1; -.
DR FlyBase; FBgn0015247; Iap2.
DR InterPro; IPR001370; BIR.
DR InterPro; IPR001841; Znf_ring.
DR Pfam; PF00653; BIR; 3.
DR Pfam; PF00097; zf-C3HC4; 1.
DR SMART; SM00238; BIR; 3.
DR SMART; SM00184; RING; 1.
DR PROSITE; PS01282; BIR_REPEAT_1; 3.
DR PROSITE; PS50143; BIR_REPEAT_2; 3.
KW Apoptosis; Zinc-finger; Repeat.

FT	REPEAT	9 - 76	BIR 1.
FT	REPEAT	113 - 179	BIR 2.
FT	REPEAT	212 - 279	BIR 3.
FT	ZN_FING	451 - 485	RING-TYPE.
FT	CONFLICT	5	G -> V (IN REF. 2).
FT	CONFLICT	40	N -> K (IN REF. 2).
FT	CONFLICT	64 - 65	ER -> AG (IN REF. 3).
FT	CONFLICT	94	E -> K (IN REF. 1).
FT	CONFLICT	282	A -> D (IN REF. 6).
FT	CONFLICT	286	A -> S (IN REF. 3).
FT	CONFLICT	302	P -> Q (IN REF. 2 AND 5).
FT	CONFLICT	303	P -> T (IN REF. 6).
FT	CONFLICT	327	A -> T (IN REF. 2).
FT	CONFLICT	369 - 376	ALEVREPP -> DWRCASR (IN REF. 3).

SQ SEQUENCE 498 AA; 54506 MW; 66EC36DA6ED24AD6 CRC64;

Query Match 54.3%; Score 145; DB 1; Length 498;
Best Local Similarity 55.6%; Pred. No. 1.9e-11;
Matches 25; Conservative 4; Mismatches 16; Indels 0; Gaps 0;

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Qy      1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCP 45
          ||||||||:   | | |  | | :: ||  |||  || | ||:||
Db    133 LAKAGFYYLNRLDHVKCVWCNGVIAKWEKNDNAFEEHKRFFPQCP 177
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RESULT 11
BIRG_MOUSE
ID BIRG_MOUSE STANDARD; PRT; 1402 AA.
AC Q9JIB3;
DT 20-AUG-2001 (Rel. 40, Created)
DT 20-AUG-2001 (Rel. 40, Last sequence update)
DT 20-AUG-2001 (Rel. 40, Last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1G (NEURONAL APOPTOSIS
DE INHIBITORY PROTEIN 7).
GN BIRC1G OR NAIP7.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=20414747; PubMed=10958627;
RA Endrizzi M.G., Hadinoto V., Growney J.D., Miller W., Dietrich W.F.;
RT "Genomic sequence analysis of the mouse Naip gene array.";
RL Genome Res. 10:1095-1102(2000).
CC -!- FUNCTION: PREVENTS MOTOR-NEURON APOPTOSIS INDUCED BY A VARIETY OF
CC SIGNALS.
CC -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC ---

CC ---

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DR   EMBL; AF242433; AAF82749.1; -.
DR   MGD; MGI:1858256; Birc1g.
DR   InterPro; IPR001370; BIR.
DR   Pfam; PF00653; BIR; 3.
DR   SMART; SM00238; BIR; 3.
DR   PROSITE; PS01282; BIR_REPEAT_1; 2.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
KW   Apoptosis; Repeat; Multigene family.
FT   REPEAT       60    127       BIR 1.
FT   REPEAT      159    227       BIR 2.
FT   REPEAT      278    345       BIR 3.
SQ   SEQUENCE   1402 AA;  159662 MW;  C1DFFBA359893E0D CRC64;


  Query Match             52.8%;  Score 141;  DB 1;  Length 1402;
  Best Local Similarity   52.2%;  Pred. No. 1.8e-10;
  Matches   24;  Conservative    5;  Mismatches   17;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           |: ||| : |  | | ||:||| | |||  |:   || : |||| |
Db     181 LSAAGFVFTGKRDTVQCFSCGGSLGNWEEGDDPWKEHAKWFPKCEF 226


RESULT  12
BIR1_HUMAN
ID   BIR1_HUMAN     STANDARD;      PRT;  1403 AA.
AC   Q13075; Q13730; Q99796; O75857;
DT   01-NOV-1997 (Rel. 35, Created)
DT   20-AUG-2001 (Rel. 40, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1 (NEURONAL APOPTOSIS
DE   INHIBITORY PROTEIN).
GN   BIRC1 OR NAIP.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Fetal brain;
RX   MEDLINE=95112344; PubMed=7813013;
RA   Roy N., Mahadevan M.S., McLean M., Shutler G., Yaraghi Z.,
RA   Farahini R., Baird S., Besner-Johnston A., Lefebvre C., Kang X.,
RA   Salih M., Aubry H., Tamai K., Guan X., Ioannou P., Crawford T.O.,
RA   de Jong P.J., Surh L., Ikeda J., Korneluk R.G., Mackenzie A.;
RT   "The gene for neuronal apoptosis inhibitory protein is partially
RT   deleted in individuals with spinal muscular atrophy.";
RL   Cell 80:167-178(1995).
RN   [2]
RP   SEQUENCE FROM N.A., AND REVISIONS.
RC   TISSUE=Brain;
RX   MEDLINE=98163755; PubMed=9503025;
RA   Chen Q., Baird S.D., Mahadevan M., Besner-Johnston A., Farahani R.,
RA   Xuan J.-Y., Kang X., Lefebvre C., Ikeda J.-E., Korneluk R.G.,
RA   MacKenzie A.E.;
RT   "Sequence of a 131-kb region of 5q13.1 containing the spinal muscular
RT   atrophy candidate genes SMN and NAIP.";
RL   Genomics 48:121-127(1998).
RN   [3]
RP   SEQUENCE OF 386-623 FROM N.A.
RA   der Steege G., Draaijers T.G., Grootscholten P.M., Osinga J.,
RA   Anzevino R., Velona I., Brahe C., Scheffer H., van Ommen G.J.B.,
RA   Buys C.H.C.M.;
RL   Submitted (MAY-1995) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   SEQUENCE OF 222-1403 FROM N.A.
RA   Jones K., Graves T., McPherson J.;
RL   Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
RN   [5]
RP   FUNCTION.
RC   TISSUE=Liver;
RX   MEDLINE=96149249; PubMed=8552191;
RA   Liston P., Roy N., Tamai K., Lefebvre C., Baird S., Cherton-Horvat G.,
RA   Farahani R., McLean M., Ikeda J., Mackenzie A., Korneluk R.G.;
RT   "Suppression of apoptosis in mammalian cells by NAIP and a related
RT   family of IAP genes.";
RL   Nature 379:349-353(1996).
CC   -!- FUNCTION: PREVENTS MOTOR-NEURON APOPTOSIS INDUCED BY A VARIETY OF
CC       SIGNALS.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN MOTOR NEURONS, BUT NOT IN SENSORY
CC       NEURONS. FOUND IN LIVER AND PLACENTA, AND IN A LESSER EXTENT IN
CC       SPINAL CORD.
CC   -!- DISEASE: MUTATED OR DELETED FORMS OF NAIP HAVE BEEN FOUND IN
CC       INDIVIDUALS WITH SPINAL MUSCULAR ATROPHY TYPE I (SMA TYPE 1). SMAS
CC       ARE FATAL AUTOSOMAL RECESSIVE DISORDERS SUBCLASSIFIED AS TYPE 1
CC       (WERDNIG-HOFFMANN DISEASE), TYPE II (INTERMEDIATE FORM), AND TYPE
CC       III (WOHLFART-KUGELBERG-WELANDER DISEASE) BASED UPON THE AGE OF
CC       ONSET AND CLINICAL SEVERITY. THESE NEURODEGENERATIVE DISORDERS ARE
CC       CHARACTERIZED BY DEGENERATION OF LOWER MOTOR NEURONS, LEADING TO
CC       PROGRESSIVE PARALYSIS MUSCULAR ATROPHY. CONCERNS 1 IN 6000
CC       NEWBORNS.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U19251; AAC52045.1; -.
DR   EMBL; U80017; AAC52047.1; -.
DR   EMBL; U21913; AAA64504.1; -.
DR   EMBL; AC005031; AAC62261.1; -.
DR   MIM; 600355; -.
DR   InterPro; IPR001370; BIR.
DR   Pfam; PF00653; BIR; 3.
DR   SMART; SM00238; BIR; 3.
DR   PROSITE; PS01282; BIR_REPEAT_1; 3.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
KW   Apoptosis; Repeat.
FT   REPEAT       60    127       BIR 1.
FT   REPEAT      159    227       BIR 2.
FT   REPEAT      278    345       BIR 3.
FT   CONFLICT    222    223       PK -> YR (IN REF. 4).
FT   CONFLICT    386    387       VP -> ST (IN REF. 3).
FT   CONFLICT    535    535       M -> V (IN REF. 3).
FT   CONFLICT    553    553       Y -> H (IN REF. 3).
FT   CONFLICT   1228   1231       MISSING (IN REF. 4).
SQ   SEQUENCE   1403 AA;  159613 MW;  566304C154DA5E64 CRC64;


  Query Match             52.8%;  Score 141;  DB 1;  Length 1403;
  Best Local Similarity   52.2%;  Pred. No. 1.8e-10;
  Matches   24;  Conservative    6;  Mismatches   16;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           ||||| :| |  | | ||:||| |  |:  |: : :| | || |||
Db     299 LAKAGLFYTGIKDIVQCFSCGGCLEKWQEGDDPLDDHTRCFPNCPF 344


RESULT  13
BIRA_MOUSE
ID   BIRA_MOUSE     STANDARD;      PRT;  1403 AA.
AC   Q9QWK5; Q9R017; Q9JIB5;
DT   20-AUG-2001 (Rel. 40, Created)
DT   20-AUG-2001 (Rel. 40, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1A (NEURONAL APOPTOSIS
DE   INHIBITORY PROTEIN 1).
GN   BIRC1A OR NAIP1 OR NAIP.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
```

```
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Yaraghi Z., Korneluk R.G., MacKenzie A.E.;
RT   "Cloning and characterization of the multiple copies of the murine
RT   homologue of NAIP (neuronal apoptosis inhibitory protein).";
RL   Submitted (JUN-1997) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99431676; PubMed=10501978;
RA   Huang S., Scharf J.M., Growney J.D., Endrizzi M.G., Dietrich W.F.;
RT   "The mouse Naip gene cluster on Chromosome 13 encodes several distinct
RT   functional transcripts.";
RL   Mamm. Genome 10:1032-1035(1999).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20414747; PubMed=10958627;
RA   Endrizzi M.G., Hadinoto V., Growney J.D., Miller W., Dietrich W.F.;
RT   "Genomic sequence analysis of the mouse Naip gene array.";
RL   Genome Res. 10:1095-1102(2000).
CC   -!- FUNCTION: PREVENTS MOTOR-NEURON APOPTOSIS INDUCED BY A VARIETY OF
CC       SIGNALS.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF007769; AAB69223.1; -.
DR   EMBL; AF135491; AAD56763.1; -.
DR   EMBL; AF242432; AAF82752.1; -.
DR   MGD; MGI:1298223; Bircla.
DR   InterPro; IPR001370; BIR.
DR   Pfam; PF00653; BIR; 3.
DR   SMART; SM00238; BIR; 3.
DR   PROSITE; PS01282; BIR_REPEAT_1; 1.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
KW   Apoptosis; Repeat; Multigene family.
FT   REPEAT       60    127       BIR 1.
FT   REPEAT      159    227       BIR 2.
FT   REPEAT      278    345       BIR 3.
FT   CONFLICT    343    343       I -> V (IN REF. 2).
FT   CONFLICT    359    359       L -> Q (IN REF. 2).
FT   CONFLICT    624    624       E -> K (IN REF. 2).
FT   CONFLICT   1092   1092       D -> E (IN REF. 3).
FT   CONFLICT   1116   1116       D -> N (IN REF. 3).
FT   CONFLICT   1123   1123       G -> R (IN REF. 3).
FT   CONFLICT   1129   1129       L -> H (IN REF. 1).
FT   CONFLICT   1140   1140       T -> M (IN REF. 2).
FT   CONFLICT   1269   1269       A -> V (IN REF. 3).
SQ   SEQUENCE   1403 AA;  158692 MW;  B31630259595EE67 CRC64;


  Query Match             52.8%;  Score 141;  DB 1;  Length 1403;
  Best Local Similarity   52.2%;  Pred. No. 1.8e-10;
  Matches   24;  Conservative    5;  Mismatches   17;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           |: ||| : |  | | ||:||| | |||  |:   || : |||| |
Db     181 LSAAGFVFTGKRDTVQCFSCGGSLGNWEEGDDPWKEHAKWFPKCEF 226


RESULT  14
BIRE_MOUSE
ID   BIRE_MOUSE     STANDARD;      PRT;  1403 AA.
AC   Q9R016; Q9R029; P81703; O09122; O09121;
DT   20-AUG-2001 (Rel. 40, Created)
DT   20-AUG-2001 (Rel. 40, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1E (NEURONAL APOPTOSIS
DE   INHIBITORY PROTEIN 5).
GN   BIRC1E OR NAIP5 OR NAIP-RS3.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99431676; PubMed=10501978;
RA   Huang S., Scharf J.M., Growney J.D., Endrizzi M.G., Dietrich W.F.;
RT   "The mouse Naip gene cluster on Chromosome 13 encodes several distinct
RT   functional transcripts.";
RL   Mamm. Genome 10:1032-1035(1999).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=129/SV;
RX   MEDLINE=99417674; PubMed=10486205;
RA   Endrizzi M., Huang S., Scharf J.M., Kelter A.R., Wirth B.,
RA   Kunkel L.M., Miller W., Dietrich W.F.;
RT   "Comparative sequence analysis of the mouse and human Lgn1/SMA
RT   interval.";
RL   Genomics 60:137-151(1999).
RN   [3]
RP   SEQUENCE OF 82-168 FROM N.A.
RC   STRAIN=129/SVJ;
RX   MEDLINE=97131520; PubMed=8975718;
RA   Scharf J.M., Damron D., Frisella A., Bruno S., Beggs A.H.,
RA   Kunkel L.M., Dietrich W.F.;
RT   "The mouse region syntenic for human spinal muscular atrophy lies
RT   within the Lgn1 critical interval and contains multiple copies of Naip
RT   exon 5.";
RL   Genomics 38:405-417(1996).
CC   -!- FUNCTION: PREVENTS MOTOR-NEURON APOPTOSIS INDUCED BY A VARIETY OF
CC       SIGNALS.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF135492; AAD56764.1; -.
DR   EMBL; AF131205; AAD56760.1; -.
DR   EMBL; U66326; AAC52974.1; -.
DR   MGD; MGI:1298220; Bircle.
DR   InterPro; IPR001370; BIR.
DR   Pfam; PF00653; BIR; 3.
DR   SMART; SM00238; BIR; 3.
DR   PROSITE; PS01282; BIR_REPEAT_1; 2.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
KW   Apoptosis; Repeat; Multigene family.
FT   REPEAT       60    127       BIR 1.
FT   REPEAT      159    227       BIR 2.
FT   REPEAT      278    345       BIR 3.
FT   CONFLICT     92     92       K -> R (IN REF. 1).
FT   CONFLICT    144    144       S -> R (IN REF. 1).
FT   CONFLICT    242    242       S -> G (IN REF. 2).
FT   CONFLICT    472    472       T -> A (IN REF. 2).
FT   CONFLICT    516    516       A -> D (IN REF. 2).
FT   CONFLICT    521    521       A -> T (IN REF. 2).
FT   CONFLICT    533    533       V -> A (IN REF. 2).
FT   CONFLICT    538    538       S -> I (IN REF. 2).
FT   CONFLICT   1092   1092       E -> D (IN REF. 2).
FT   CONFLICT   1129   1129       H -> L (IN REF. 2).
FT   CONFLICT   1137   1137       R -> Q (IN REF. 2).
FT   CONFLICT   1242   1242       V -> I (IN REF. 2).
FT   CONFLICT   1276   1276       D -> N (IN REF. 2).
SQ   SEQUENCE   1403 AA;  159695 MW;  B27F645043BCEC42 CRC64;
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  Query Match             52.8%;  Score 141;  DB 1;  Length 1403;
  Best Local Similarity   52.2%;  Pred. No. 1.8e-10;
  Matches   24;  Conservative    5;  Mismatches   17;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           |: ||| : |  | | ||:||| | |||  |:   || : |||| |
Db     181 LSAAGFVFTGKRDTVQCFSCGGSLGNWEEGDDPWKEHAKWFPKCEF 226


RESULT  15
BIRF_MOUSE
ID   BIRF_MOUSE     STANDARD;      PRT;  1403 AA.
AC   Q9JIB6; P81704; O09122; O09121;
DT   20-AUG-2001 (Rel. 40, Created)
DT   20-AUG-2001 (Rel. 40, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1F (NEURONAL APOPTOSIS
DE   INHIBITORY PROTEIN 6).
GN   BIRC1F OR NAIP6 OR NAIP-RS4.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20414747; PubMed=10958627;
RA   Endrizzi M.G., Hadinoto V., Growney J.D., Miller W., Dietrich W.F.;
RT   "Genomic sequence analysis of the mouse Naip gene array.";
RL   Genome Res. 10:1095-1102(2000).
RN   [2]
RP   SEQUENCE OF 82-168 FROM N.A.
RC   STRAIN=129/SVJ;
RX   MEDLINE=97131520; PubMed=8975718;
RA   Scharf J.M., Damron D., Frisella A., Bruno S., Beggs A.H.,
RA   Kunkel L.M., Dietrich W.F.;
RT   "The mouse region syntenic for human spinal muscular atrophy lies
RT   within the Lgnl critical interval and contains multiple copies of Naip
RT   exon 5.";
RL   Genomics 38:405-417(1996).
CC   -!- FUNCTION: PREVENTS MOTOR-NEURON APOPTOSIS INDUCED BY A VARIETY OF
CC       SIGNALS.
CC   -!- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; AF242431; AAF82751.1; -.
DR   EMBL; U66327; AAC52975.1; -.
DR   MGD; MGI:1298222; Birc1f.
DR   InterPro; IPR001370; BIR.
DR   Pfam; PF00653; BIR; 3.
DR   SMART; SM00238; BIR; 3.
DR   PROSITE; PS01282; BIR_REPEAT_1; 2.
DR   PROSITE; PS50143; BIR_REPEAT_2; 3.
KW   Apoptosis; Repeat; Multigene family.
FT   REPEAT       60    127       BIR 1.
FT   REPEAT      159    227       BIR 2.
FT   REPEAT      278    345       BIR 3.
SQ   SEQUENCE   1403 AA;  159823 MW;  9D4912503358C4E9 CRC64;


  Query Match             52.8%;  Score 141;  DB 1;  Length 1403;
  Best Local Similarity   52.2%;  Pred. No. 1.8e-10;
  Matches   24;  Conservative    5;  Mismatches   17;  Indels    0;  Gaps    0;

Qy       1 LAKAGFYYIGPGDRVACFACGGKLSNWEPKDNAMSEHLRHFPKCPF 46
           |: ||| : |  | | ||:||| | |||  |:   || : |||| |
Db     181 LSAAGFVFTGKRDTVQCFSCGGSLGNWEEGDDPWKEHAKWFPKCEF 226
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Search completed: January 7, 2002, 16:05:25
Job time: 1404 sec